

**RESIDENTIAL CUSTOMER
WATER EFFICIENCY SURVEY**
(November, 2011)

Executive Summary

The Survey Sample – This statistically-projectable survey includes 400 telephone interviews conducted among a random sampling of Tucson Water residential customers contacted from a client-supplied database. Each Tucson Water customer database record included telephone number, area of residence (inside/outside Tucson), average monthly water usage (cubic feet) and highest monthly water usage (cubic feet). All survey respondents were heads of household (and 93% were the person in the house who pays the water bill). Per the sampling plan, surveys were distributed among Tucson Water customers who live inside (66%) and outside (34%) City of Tucson limits. A Spanish-language version of the final survey instrument was prepared and made available to respondents who requested it.

Residential Customer Profile – Display 1 summarizes key demographic data collected in this survey, broken out by average monthly water usage. As might be expected, average monthly water usage is directly related to household size and annual household income. Overall, median age is 56.2 years – with an average length of residence in Tucson of 27.9 years.

Display 1

Demographic Characteristics

	Total (N=400)	Average Monthly Water Usage		
		≤ 5 Cubic Feet (N=112)	6-10 Cubic Feet (N=151)	11+ Cubic Feet (N=137)
Gender (Male %/Female %)	40%/60%	39%/61%	40%/60%	41%/59%
Median age ⁽¹⁾	56.2 years	57.5 years	56.0 years	55.5 years
Average length of residence in Tucson	27.9 years	24.8 years	29.3 years	28.9 years
Education ⁽¹⁾ (college degree or better)	55%	48%	50%	61%
Average household size ⁽¹⁾	2.7 people	2.1 people	2.8 people	3.0 people
Median annual household income ⁽¹⁾	\$52,894	\$45,396	\$49,407	\$70,089

⁽¹⁾ Calculated to exclude refused responses.

Water-Using/Water-Conserving Items in the Home – More than four of ten customers indicate they currently utilize the following water-oriented items in their home:

- **Drip irrigation system** (45%, particularly residents outside City of Tucson limits [58% versus 38% inside] and households with progressively higher average monthly water usage. Among customers with a drip irrigation system, fully 88% indicate that their system has an automatic timer [which represents 40% usage among the total sample].)
- **Xeriscape landscaping** (42%, more often residents outside the city and households with “heavy” [11+ cubic feet] average monthly water use.)

Other less commonly utilized water using/conserving household items include:

- ✓ **Pool or spa** (26%)
- ✓ **Grass lawn** (20%)
- ✓ **Rainwater harvesting system** (16%)
- ✓ **Hot water re-circulating or instant hot water system** (14%)
- ✓ **Gray water reuse** (9%)
- ✓ **Misting system** (5%)

Perceived Importance of Water Efficiency/Conservation – Fully 95% of Tucson Water customers indicate that water conservation and efficient use of water is “very” (83%) or “somewhat” (12%) important issue in the Tucson community. Only 1% believe this issue is “not important,” yielding a 4.8 average score on the “1-to-5” rating scale. Significantly, opinions are very consistent regardless of geography or demographic sub-group.

Why is conservation and efficient use of water an important issue in the community? One-third explain that “we live in a desert and don’t have that much water.” These tend to be City residents and 10-to-20 year Tucson residents. Similarly, others add “because of where we are located” that “we don’t get that much rain per year” and/or say “it is so dry.”

Several customers (more often residents outside City limits) perceive that “we do not have enough water to sustain the amount of usage we have” (27%) and/or indicate that “water is limited” (11%). Others recognize that Tucson “continues to grow” and say “we do not have enough water for the number of people in the future.” As a result of this perceived shortage, several conclude that Tucson must “conserve” (8%) and/or “stop wasting” (5%) water. More basically, one of ten customers recognize the necessity of water (“we live in the desert...without water, no life”).

Meanwhile, among the few customers (5%) who think that water conservation/efficiency is less important (neither important nor unimportant or not important) as a community issue, there is no definite consensus of opinion. Some explain that water conservation is “not a major issue, but an issue nonetheless” and/or say that the situation is “okay, but could be better.”

Tucson Water Rating – One-half of customers overall say that Tucson Water does an “excellent” (22%) or “good” (28%) job keeping the community well informed about the need for water conservation and efficiency. Another 35% offer a “fair” evaluation, while the balance (16%) indicate a “poor” (10%) or “very poor” (6%) rating. This yields a 3.5 average score on the “1-to-5” scale. This 3.5 “performance” score compares to the 4.8 “importance” evaluation – suggesting that Tucson Water is underperforming in communicating the need for water conservation and efficiency.

Awareness of Tucson Water Programs – Customers were asked if they had (in the past few years) heard of five different Tucson Water programs. Importantly, for each program tested, awareness is significantly higher among customers who indicate past-participation in a water efficiency program from Tucson Water. The two most familiar programs overall include **Beat the Peak** (71% – more often residents inside City limits) and **irrigation and desert landscaping classes for homeowners** (48%). Three other Tucson Water programs have a lower overall degree of awareness, including: **water education programs for schools** (30%), **a water efficiency program for businesses** (20%) and **training for professional landscapers** (9%).

Steps Taken to Use Water Efficiently at Home – Eight of ten Tucson Water customers (regardless of geography or average monthly water usage) indicate that they have taken steps to use water more efficiently in their home. This is especially true among past-participants in a water efficiency program (93% versus 80% of non-participants).

On a top-of-mind basis, Tucson Water customers who report using water more efficiently in their households have typically taken the following steps:

- ✓ **Shorter or fewer showers** (17%)
- ✓ **Changed out toilet/Installed low-flow toilet** (16%)
- ✓ **Generally limit overall water usage** (12%)
- ✓ **Changed shower heads to low-flow heads** (11%)
- ✓ **Turn off water when brushing teeth and/or washing hair** (9%)
- ✓ **Collect rainwater** (9%)

In lesser numbers, others self-report that they are “**reusing water**” (“gray water reuse”) (8%), purchased “**high-efficiency washer, hot water heater**” (7%), “**monitor watering plants**” (6%) and/or **changed dishwasher usage** (6%).

Tucson Water Toilet Replacement Rebate – Four of ten customers (both inside and outside Tucson) are aware that Tucson Water offers a rebate of up to \$100 to replace old high-water usage toilets with new high-efficiency toilets (42%). Awareness is highest among men (45% versus 39% of women) and households with “moderate” average monthly water usage (of 6 to 10 cubic feet) – as well as past-participants in a water efficiency program (76% versus 39% of non-participants). How did those familiar with program hear about it? Pamphlet/Water bill insert (26%), word-of-mouth (14%), television ads (8%) and newspapers (7%).

Among the 42% of Tucson Water customers aware of the high-efficiency toilet rebate program, 26% have taken advantage of it. This represents 11% participation among the total sample. Who is most likely to have taken advantage of the program? Customers who live inside Tucson (30% versus 18% outside), low income households and those with average monthly water usage of 5 cubic feet or less – as well as past-participants in a water efficiency program (50% versus 22% of non-participants).

Meanwhile, among customers familiar with the toilet rebate program who have not taken advantage of it, 17% have no particular reason for not participating. While aware of the rebate program, another 7% “haven’t seen,” “didn’t pay attention to” or “would like more information” on the details of the program. Others rent their homes (6%). One of ten say they “already have” high-efficiency toilets (3%) and/or “already had the toilet before the rebate program was offered” (6%). Some add that their “toilet is still good” (7%) or are just “not interested” in the rebate program (5%). Among the rest, two of ten are simply “too busy” or claim that the “timing” is poor for their participation – with half as many who indicate that installation process is costly or “can’t afford” the outlay at this time (9%).

Tucson Water Gray Water System Rebate – Two of ten customers are aware that Tucson Water offers a rebate of up to \$200 on the installation of a gray water system. Awareness of the rebate program tends to be higher inside City limits (23% versus 14% outside) and among men, households with moderate average monthly water usage (between 6 and 10 cubic feet) and past-participants in a Tucson Water-sponsored efficiency program (41% versus 18% of non-participants). How did those familiar with the program hear about it? Water bill insert (25%), television advertisement (20%) or word-of-mouth (12%).

Among the 20% of customers aware of the gray water rebate program, just 2% have taken advantage of it. This represents 0.5% participation among the total sample. The two customers who have taken advantage of the rebate program reside within City limits.

Among customers aware of the program but not participating in it, the primary reason offered for not taking advantage of the gray water rebate program is that it is “expensive to install” (27%). Others say there is “too much work, reconstruction and expense” or that “I don’t think it would help because we use so little water” (8% each). Some indicate they “haven’t had time,” “didn’t think about it” or that it is “not practical for our

current situation.” A few report that they are “looking into it” or “need more information.”

Potential Interest in Rainwater Harvesting System – More than six of ten customers say they would be interested in installing a rainwater harvesting system if Tucson Water offered a rebate for doing so (62%). This is especially true among customers who live outside Tucson city limits (66% versus 60% of those inside) and households with average monthly water usage of 6 cubic feet or more. What type of rainwater harvesting system elicits the highest degree of interest? A rebate for installing a passive rainwater harvesting system that directs rainwater to your landscaped areas (36%), followed closely by a rebate of a portion of the cost for a system which captures rainwater in storage cisterns for later use and a rebate on simpler systems such as rainwater barrels or gutters (32% each). The remaining 13% are unsure which system they prefer. A passive harvesting system is the top choice regardless of average monthly water usage or residence inside/outside City of Tucson limits.

Level of Difficulty/Ease in Using Water More Efficiently – Tucson Water customers are more apt to say it would be easier for their household to use water more efficiently **outside** their home than **inside** (3.4 versus 3.2 respectively on the “1-to-5” easy/difficult scale). Still, in both cases, the largest share indicates a “neutral” score (“neither easy nor difficult”) (28% versus 40%, respectively).

Women, residents outside City limits, those who earn between \$25,000 and \$34,999 a year and 10-to-15 year Tucson residents say it would be easy to use water more efficiently **outside** their home, with little difference based on average monthly water usage. Meanwhile, the highest income households are more likely to say increasing water efficiency outside the home would be difficult.

Customers who earn between \$25,000 and \$49,999 a year, those with a high school education or less and customers under the age of 35 are somewhat more apt to say it would be easy to use water more efficiently **inside** their home, with little difference based on residence inside/outside City limits or average monthly water usage. Who is more likely to say it would be difficult to use water more efficiently inside their home? The oldest customers (65+).

Past Participation in Water Efficiency Programs – Overall, 7% of customers surveyed report having participated in a water efficiency program from Tucson Water in the past. These tend to be residents inside Tucson city limits, college graduates or better and households with moderate (6 to 10 cubic feet) average monthly water usage. What is the primary reason for not participating in a water efficiency program from Tucson Water? One-half of non-participants say they are “not aware” (43%) and/or “need more information” about such programs (“a lack of information”) (6%). Others indicate they have “been busy” (10%), are “using water frugally already” (9%) and/or “do it myself” (“already involved in water efficiency”) (5%). A few indicate that “the cost is prohibitive for both inside and outside.”

If a portion of the cost was rebated, at least three of ten Tucson Water customers would be interested in participating in the following types of water efficiency programs:

- **Hot water recirculation system** (42% interest/10% already use) (Interest is higher among residents inside City limits and customers with some college education.)
- **High-efficiency dishwasher** (36% interest/24% already use) (These tend to be residents outside City limits and customers with a college degree or better.)
- **Front-loading washing machine** (30%/26% already use) (More appealing to residents inside City limits and households which use 10 or fewer cubic feet of water per month on average.)
- **An advanced irrigation timer and sensor** (28%/24% already use) (Increased interest among residents outside City limits, customers with a graduate degree and households with an average monthly water usage of 6 cubic feet or more.)

One of ten say they are interested in a rebate program **for removing or reducing their grass lawn**. Meanwhile, three of ten report they have already removed their grass lawn.

As might be expected, customers who have previously participated in a Tucson Water efficiency program are more likely to be interested in all five of the water efficiency programs evaluated.

What are the best methods of informing customers about the water efficiency programs offered by Tucson Water?

- ✓ **Water bill inserts** (44%)
- ✓ **Direct mail** (26%)
- ✓ **Television** (22%)
- ✓ **E-mail** (7%)
- ✓ **Newspapers** (6%)
- ✓ **In-person presentations to civic or other groups** (6%)

Awareness of Tucson Water Rate Structure – Nearly two-thirds of customers are aware that the Tucson Water's rate structure is set up to encourage efficient water use (64%). Customers outside City limits, those with a graduate degree, customers who have previously participated in a Tucson Water efficiency program and households with progressively higher average monthly water usage are particularly apt to be aware that the rate structure is set up to encourage efficient water use.

Reasons for Reducing Water Use – Among Tucson Water customers who have reduced water use in the past two years, most have done so to **lower their water bill** (23%), to **conserve water** (21%) or a combination of **both** (8%). References to lowering monthly bills are generally consistent regardless of income level, and greater among the heaviest average monthly water users. On the other hand, water conservation (as a motivation to

reduce use) is mentioned regardless of monthly average water usage. In lesser numbers, some cite environmental reasons (5%) and/or say reducing water use “is just the right thing to do for the future” (4%).

Overall, 28% of customers surveyed indicate that they have *not* reduced their water use in the past two years. These tend to be the shortest-term Tucson residents (5 years or less) (51%) and progressively less formally educated customers.